

Air University Recovers from Vietnam and Regains Respect

WESLEY PHILLIPS NEWTON AND JEROME A. ENNELS

Y THE END of World War II, Army Air Forces leaders realized that their decision to close the Air Corps Tactical School (ACTS), while deemed necessary, had been short sighted. As a re sult, on 12

March 1946, these leaders, most of whom were ACTS graduates, established Air University (AU) to fill the void left by the Tactical School's inactivation and to correct many of the problems and deficiencies of the prewar

This article is based on a paper presented on 11 April 1997 at the annual meeting of the Society for Military History in Montgomery, Alabama. Themes in the paper and article are from the authors' The Wisdom of Eagles: A History of Maxwell Air Force Base (Montgomery, Ala.: Black Belt Press, 1997).

military education system. Like the Tactical School be fore it, AU's pri mary mis sion was to educate Air Force officers in the strategies, tactics, and techniques of airpower employment and to serve as a sounding board for ideas concerning the critical role of airpower in future wars. As Maj Gen Muir S. Fairchild, the first AU commander, so elo quently put it, Air University was created to produce airpower planners and leaders who would "design an Air Force so ade quate it need never be used."

This article examines AU's attempt to accomplish this mission and evaluates the impact of the cold war, particularly the lessons learned from the Vietnam conflict, on those efforts. Although the study covers AU in general, it fo cuses on the AU pro fes sional military education (PME) program and the way that AU schools drifted away from their primary missions of education in the profession of arms and assumed an unofficial role of providinginstructioninhigh-levelpolicyanddecision making. The result was a decline in the quality and relevance of the AU PME program and the loss of academic prestige among fellow Department of Defense and sister-service PME schools. This article contends that a persistent struggle to regain respect in the PME arena through major curriculum overhauls, innovative faculty acquisition methods, and new student-selection procedures eventually returned AU to its previous status as one of the premiermilitaryeducationinstitutionsinthe world.

Air University was launched at Maxwell Field, Alabama, with well-deserved praise for its founders and mostly reasonable expressions of optimism for its future. But for the first decade of its existence, AU lacked adequate facilities, equipment, and billeting for its students. Indeed, the AU library was scattered among nine different buildings.

All this was understandable, given difficult postwar economic conditions and the priority assigned to operational concerns with the advent of the cold war in 1947. By the mid-1950s, the inadequacies began to be overcome with the completion of five new buildings for administrative and academic pur-

poses and five student dormitories. A permanent home for the library was the cen-

At the outset, General Fairchild found a problem with the students, many of whom had difficulty with writing.

terpiece for this "Academic Circle," later named Chennault Circle. In time, the Air Force Historical Research Center would join the library—bothfacilities considered the finest of their kind in the military.²

A much longer-lasting set of prob lems concerned the na ture and quality of stu dents and faculties of the PME schools. It also had to do with what was taught.

Initially and for a number of years, all students and faculty members at Air War College (AWC) and Air Command and Staff School (ACSS) were military. The first two classes were composed of and taught by men with fine war records. The instructors properly focused on an air arm's main business—air warfare— emphasizing lessons fresh from World War II. But within the United States Air Force, born in 1947, the lesson of a strategic of fensive against a highly industrialized society became all too pervasive and remained influential far too long.

Lt Gen Alvan C. Gillem II, USAF, Retired, who was in the second class of ACSS, identified a problem with the faculties. When he was there in 1947-48, they were men of stature but generallyinexperienced in university teaching methods. When he returned in 1954 as assistant commandant of ACSS, the faculties were "better qualified from the standpoint of teaching techniques" but did not possess "quite the stature of the original group." Finding and retaining able faculty became increasingly difficult.

At the outset, General Fairchild found a problem with the students, many of whom had difficulty with writing. Compared to their colleagues in the Navy and the Army



Once upon a time—the AWC building as it was. For the first decade of its existence, AU lacked adequate facilities, equipment, and billeting for its students.

ground forces, few air officers had college degrees. Therefore, AU had to offer some remedial work until the Air Force Reserve Officer Training Corps and the creation of the Air Force Academy in the 1960s over came this deficiency.4

AU headquarters established criteria early on for the quality of officers desired from the various commands. But the commands' headquarters began to evade requests for officers they wished to retain by substituting names of less qualified and valued officers.⁵

From the beginning, AU was charged "to study Air Force responsibilities for national security and to develop recommendations as to long-range Air Force objectives," with AWC students to address these matters in their theses. By 1956, however, AWC no longer ex pected its stu dents to do so. This loss of expectation could only dim some of AU's luster.6

The 1950s saw even bumpier air for AU. In 1950 Maj Gen Orvil Anderson, the first AWC commandant, advocated before a Montgomery civic club that the United States drop A-bombs on the Soviet Union in a preventive war. President Harry S. Truman considered this a clear case of a military commander making an unauthorized and impolitic public statement. Consequently, Air Force chief of staff Hoyt Vandenberg suspended Anderson from his post; Anderson retired soon there- after.7

In 1950 the Korean conflict produced organizational chaos at AU-specifically, the suspension of AWC, Air University's crown jewel. This action constituted Headquarters USAF's lesser response to strong feelings in the op erational commands that AU should be closed and its personnel and students assigned to Korean War duty. Air Command and Staff College (ACSC, formerly ACSS) became an intermediate headquarters-a sort of catchall-under AU headquarters for various other organizations in the AU orbit. New organizations, such as Air Force ROTC headquarters, were assigned to AU, taxing its ability to absorb them.

This Korean-era crisis was gradually sorted out after hostilities ended in 1953. A positive result was the move of the junior-officer PME school from Tyn dall AFB, Flor ida, to Max well AFB. Restructured and soon renamed Squadron Officer School (SOS), it joined the other PME schools at Maxwell.8

The reputation of the AU PME schools deteriorated in the 1960s. Head quarters USAF finally attempted corrective action in 1968, informing all commands that to retain any officer requested for the PME classes, a command had to present an acceptable excuse to Headquarters USAF.9

The year 1964 marked the begin ning of the di rect in volve ment of the United States in another major hot war stemming from the cold war-Vietnam. This produced no organizational chaos at Maxwell, but the number of students attending the PME schools dropped significantly.

The AU commander most seriously confronted by the cresting of antiwar sentiment dur ing his ten ure was Gen eral Gillem, vet eran of more tranquil tours at AU. His most pressing concerns included declining AFROTC enroll ments and protest rallies conducted by antiwar students, faculty, and outsiders on many campuses. Directed against AFROTC detachments, these rallies were often disruptive and sometimes violent.

Gloom lessened slightly in 1970-71 with a decline of antiwar activities against AFROTC. But enrollment in the General Military Course remained low and would not recover for over a decade. General Gillem visited mainly black campuses such as Grambling State University to seek more black students for AFROTC.

His actions were motivated both by the need for new detachments and by social change. The late 1960s had seen intensification of social ferment in the United States, some of it influenced by the reaction to Vietnam. The ferment was reflected in a new course in the 1970-71 AWC curriculum-Impact of Social and Cultural Changes on United States National Security. Minorities exerted pressure to allow their participation in areas of society previously closed or barely open to them.

Col Benjamin O. Davis Jr. had begun the racial integration of AWC with the class of



Lt Gen Alvan C. Gillem II, USAF, Retired, who was in the second class of ACSS, identified a problem with the faculties. When he was there in 1947-48, they were men of stature but generally inexperienced in university teaching methods. When he returned in 1954 as assistant commandant of ACSS, the faculties were "better qualified from the standpoint of teaching techniques" but did not possess "quite the stature of the original group."

1949-50. Women had gained token presence in the 1960s, for the most part in SOS. But by the end of the Vietnam conflict, minorities had made little further progress in student bodies or faculties of the two upper-level PME schools. Only social and official pressures over the next two decades would bring real

The classes for 1971-72 reached pre-Vietnam levels, and overt hostility against AFROTC continued to decline. Earlier, in 1970, Headquarters USAF had directed AU to undertake project Corona Harvest, designed to extract lessons from the conflict in Southeast Asia. The project soon began producing



When General Furlong was AU commander, he did suffer one stunning setback. . . . Over his objections, Headquarters USAF terminated AU's status as a MAJCOM, placing it under Air Training Command (ATC). A grim-faced Furlong turned over the AU command flag to the ATC commander in a ceremony of symbolic vassalage.

numerous studies. Corona Harvest, however, disappointed General Gillem, who felt it had been watered down. Like the Vietnam conflict, which was winding down, it was soon phased out.¹⁰

Vietnam's material impact on AU ebbed. The psychological and educational impact was another matter. After North Vietnam's triumph, all US armed forces were in a state of shock. According to Dr. Richard P. Hallion, the Air Force historian, a "restrospective licking of wounds" ensued.¹¹

In the long restoration, a debate—sometimes ugly—raged about the "whys" and implications of defeat. Initially, within the

armed forces as a whole, one found bitter feelings and scapegoating. Accusations spread that the civilian leadership in Washington had tied the armed forces' hands; that the media had wrongly portrayed them; and that the antiwar movement, led by activists such as Jane Fonda, had betrayed them. Proponents of this argument maintained that these things had produced defeat. At Maxwell, the debate had a natural platform soon after the war. Several retired Army, Air Force, and Navy flag officers—all veterans of Vietnam—talked to PME students about political mismanagement, unfair media image, and betrayal.

Attempts to characterize the early student reaction to this perspective have produced differing interpretations. Earl H. Tilford Jr., an Air Force major who edited the Air University Review and later became a civilian faculty member at ACSC, contended that most students accepted the "stabbed-in-the-back" thesis into the early 1980s. But an analysis of AU's reaction to Vietnam by Air Force major Suzanne Budd Gheri in 1985 found that because Vietnam veterans attending the senior PME schools were not involved in major tactical decisions, they were more realistic about cause and effect.¹²

The Gheri study traced the PME schools' attention to Vietnam in their curricula over an 11-year span. From 1974 until 1979, Vietnam found its way into the curriculum only at AWC—and in a limited way at that. Then the other schools followed suit. The higher the level, the more profound the examination of Vietnam.

Increasingly, the schools added hours and depth. Up through the mid-1980s, as the 1985 study il lus trated, all schools made a serious attempt to examine causes and effects. While not totally disavowing the stabbed-inthe-back thesis, they focused more and more attention on military mistakes, suggesting that "American military participation in low-level conflict may be un avoid able [and] it will most likely be executed within stringent political constraints." 13

Tilford observed that by the late 1980s, students were willing to examine the Air For-

ce's own responsibilities for defeat in Vietnam. The colonels at AWC led this openmindedness.14

Strate gies and weap ons such as the bomber and the atomic bomb, although successful in World War II, weighted down Air Force planning and performance. "As a result," wrote Hallion, the United States "essentially disestablished its tactical air forces between 1945 and 1950. . . . One might have expected that Korea would have restored a measure of rationality to postwar defense thinking, but, alas, it did not," for Korea "generally was considered the 'exception' to the anticipated normative war of the future-atomic conflict."15

Airpower scholar Dr. Stephen L. McFarland, in a one-volume history of the United States Air Force to be published by the Office of Air Force History, describes how an inappropriate strategy from World War II remained in place at the beginning of US involve ment in Viet nam. The fo cus was "almost exclusively on the strategic bombing of chokepoints without regard to the society to be bombed or the type of war to be fought."16

McFarland, who spent a year at AWC as a visiting professor, credited the successful use of precision-guided missiles and "smart" bombs in Vietnam with sparking "a revision of the traditional doctrine of strategic bombardment." The most significant lesson learned by the Air Force, according to McFarland, was awareness of "the dangers of allowing ad her ence to doc trine to cloud its mili tary strategy."17

A dec ade af ter the end of the Viet nam conflict, two major books appeared that were highly critical of the Air Force's role in Southeast Asia. Per haps surprisingly, neither author was an independent scholar with a leftist, pacifist, or an anti-Air Force orientation. The Limits of Air Power: The American Bombing of North Vietnam was published in 1989 by Free Press, which often publishes conservative authors. The author, Lt Col Mark Clod fel ter, a serving Air Force officer who holds a PhD, a few years later joined the faculty of a new organization at AU-the School of Advanced Airpower Studies. The sec ond book, Setup: What



When Secretary of the Air Force Verne Orr asked him how he felt about returning AU to MAJCOM status, Cleveland, despite knowing that Headquarters USAF did not favor such a change, replied affirmatively.

the Air Force Did in Vietnam and Why, was published by Air University Press in 1991. The author, Dr. Earl Tilford, a veteran of Southeast Asia, was a faculty member at ACSC, as mentioned earlier.

Both books caused considerable grumbling by people who still adhered to the stabbed-in-the-back thesis. Yet, one finds no clearer symbol of the Air Force's-as well as AU's-recovery from Vietnam than the fact that these books emerged from the Air For ce's own ranks and that their authors were or became part of the AU family.18

The debate is not over. In 1996 Dr. John Schlight authored A War Too Long: The His tory of the USAF in Southeast Asia for the Office of Air Force History. In its introduction, Schlight writes, "Due to questionable political policies and decision-making, only sporadic and relatively ineffective use had been made of air power's ability to bring great force to bear quickly and decisively."19

One cannot make a simple analysis of the

In an analysis of the military services' war colleges in 1987, Dr. Williamson Murray—a historian at Ohio State and formerly a research associate at AWC—characterized AWC "as one of the weakest of the war colleges."

relationship between the aftermath of the US defeat in Vietnam and the reform of the curricula, faculties, and student bodies of AU's PME schools during that period. But one must consider the relation ship a part of the process of restoration that all the armed forces painfully underwent.

It is no coincidence that reform began in earnest in 1974 with a symposium of major command (MAJCOM) vice commanders at Maxwell, called by Lt Gen F. Michael Rogers, the last AU commander who was a veteran of World War II. The objective of the symposium was to examine the quality and future of the PME schools.

Although the conferees reaffirmed their commands' support for the PME schools, they made one ominous admission: while officially the Air Force held that ACSC and AWC were equal to the senior PME schools of the other services, Air Force officers considered attendance at the National War College or the Industrial College of the Armed Forces as more beneficial to their careers. Graduates of the Army War College and Na val War College also had higher promotion rates than AWC graduates.²⁰

It was up to AU itself to change the commands' practice of sending less favored officers to Maxwell—despite the 1968 decree—and favored officers to schools such as the National War College. Promotion statis-

tics explained avoidance of the one and preference for the other. Spe cifically, AWC graduates had a higher passover rate, even in the primary zone. National War College graduates, however, had a higher selection rate, even below the zone.

Change at AU had to come about through planning on the scene. But in the interest of objectivity, commanders who had most or all of their schooling elsewhere could best carry out reform. Three such commanders led AU successively.

Lt Gen Ray mond B. Fur long as sumed command of AU in 1975. He knew in ad vance that the PME schools' curricula placed too much stress on national policy making and managerial and supervisory aspects of the role of command—and too little on how to fight an air war. He had re ceived ap proval from Head quarters USAF to "bring up the war in the Air War College. We are going to study our business." Furlong quickly perceived that the new AWC commandant, Maj Gen Stanley M. Umstead Jr., was of like mind and therefore ideal as the point man in implementing reforms.

Umstead took several far-reaching steps. He initiated the application of computers to war gaming, paving the way for a complex gaming exercise designed to address tactical and strategic issues in NATO. Further, when Furlong turned his attention to overhauling the AWC curriculum to reemphasize the business of war, Umstead showed him a letter he had solicited from Dr. I. B. Holley Jr., airpower historian at Duke University and then a colo nel in the Air Force Re serve, which contained advice on how to revise the curriculum. Furlong later credited Holley "with being enormously responsible for what happened in the Air War College."²²

Furlong declared that Umstead had "rais[ed] the quality of the faculty." Noting that the AWC faculty had a number of senior colonels with their best years behind them, Um stead worked with the Air Staff to cull the deadwood and obtain competent replacements. He began a program of inviting civilian professors to spend a year in residence at

AWC and encouraged the hiring of more and better qualified full-time civilian faculty.

Moreover, the AWC commandant did not ig nore the qual ity of the stu dents. He felt that re ducing the size of classes would at tract quality stu dents. Fur long gave him the green light. They worked with the Air Staff to insure that AWC be gan to re ceive its fair share of the best officers available. Furlong also wanted rated officers, reasoning that AU should educate people who were most likely to see action in future air wars. Headquarters USAF finally allowed 64 percent of a class to be rated. By the time Umstead left for an assignment in the Pentagonin 1977, Furlong could soon see evidence of the gradually increasing quality among both faculty and students.

The AU commander did suffer one stunning setback, however. Over his objections, Headquarters USAF terminated AU's status as a MAJCOM, placing it under Air Training Command (ATC). In 1978 a grim-faced Furlong turned over the AU command flag to the ATC commander in a ceremony of symbolic vassalage.

General Fur long came to re al ize that, of all AU students, those at ACSC voiced the most criticism of their curriculum. Consequently, in his last year as AU commander, 1978–79, the spotlight finally began to shift at ACSC to the Air Force's main business.²⁴

Lieutenant General Umstead returned to Maxwell in 1979, replacing General Furlong. The new commander found that reforms he had initiated, such as computer war gaming and the AWC curriculum area known as Military Employment, had matured in his absence. Expanding the program of noted visiting professors, he also increased the number of civilians on the AWC faculty. Umstead averted a move to close SOS, resulting from charges that it placed too much emphasis on ath let ics and that it was a waste of jun ior of ficers' time; the general directed that its curriculum be overhauled.²⁵

Like his two immediate predecessors, Lt Gen Charles G. Cleve land, who re placed Umstead in 1981, had not attended any of the AU PME schools in residence. Among his most successful projects designed to reemphasize the Air Force's main business was the establishment of a real-world war-gaming center with the most advanced technology available. Another was the establishment of the Center for Aero space Doctrine, Re search, and Education (CADRE), whose mission was to foster think ing about air power in the modern world through research, publications, computerized war gaming, and the examination

Events in the 1990s have shown the uncertainty of commanding respect. In 1994 AU again lost its MAJCOM status when it was placed under Air Education and Training Command.

of doctrine and theory. In 1983, when Secretary of the Air Force Verne Orr asked him how he felt about returning AU to MAJCOM status, Cleveland, despite knowing that Headquarters USAF did not favor such a change, replied affirmatively. Shortly thereafter, the AU command flag was returned to a proud General Cleveland.²⁶

In an analysis of the military services' war colleges in 1987, Dr. Williamson Murray—a historian at Ohio State and formerly a research associate at AWC—characterized AWC "as one of the weakest of the war colleges." This was true, he claimed, despite "substantial ef forts to up grade it [in the] late 1970s.... Max well saw a sig nificant in crease in the time spent addressing war, strategy, and operational art. But the reformers eventually left Maxwell." ²⁷

In 1987 the House Armed Services Committee's Panel on Military Education, chaired by Cong. Ike Skelton (D-Mo.), examined the nation's PME school systems. It concluded that the US system was equal to foreign systems but needed to improve "jointness," emphasize strate gicthinking, and en hance overall quality. Several years later, the congressman found that improvements had been made. Un doubt edly due to the efforts of Gen-

erals Furlong, Umstead, and Cleveland, as well as his own panel's recommendations, Skelton found that at AU generally-and its faculties particularly-"the cream has finally risen to the top."28

By the end of the 1980s, AU's PME schools were also receiving their fair share of students who represented the cream of the crop. Gratifyingly, promotion rates for both faculty and students exceeded 90 percent.²⁹

But events in the 1990s have shown the uncertainty of commanding respect. In 1994 AU again lost its MAJCOM status when it was placed under Air Education and Training

Command. Another event, however, had an ameliorating effect on this loss. Just as ACTS transferred from Langley Field, Virginia, to Maxwell Field in 1931, so did the Air Force Doc trine Center transfer from Langley AFB to Maxwell AFB in 1997. Even though this newcomer reports directly to Head quarters USAF, it will use AWC and ACSC students as sounding boards for its developing ideas.30 Thus occurred a recognition of the historic roles of both the Air Corps Tac ti cal School and its successor, Air University, in educating future leaders and in developing fundamental doctrine.

Notes

- 1. "Welcoming Address by Maj. Gen. Muir S. Fairchild: Commanding General Congratulates Students at Air War College and Air Command & Staff School on Selection," The Post, 13 September 1946, 2.
- 2. For a general treatment of these events, see Jerome A. Ennels and Wesley Phillips Newton, The Wisdom of Eagles: A History of Maxwell Air Force Base (Montgomery, Ala.: Black Belt Press, 1997).
- 3. Lt Gen Alvan C. Gillem II, USAF, Retired, interviewed by Wesley Phillips Newton, 15 November 1993, 4 April 1994, and 28 May 1996.
- 4. Kenneth Schaffel, "Muir S. Fairchild: Philosopher of Air Power," Aerospace Historian, September 1986, 169-70.
 - 5. Gillem interviews, 4 April 1994 and 28 May 1996.
- 6. Robert Frank Futrell, Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964 (Maxwell AFB, Ala.: Aerospace Studies Institute, Air University, 1971),
- 7. Montgomery Advertiser, 1 September 1950 and 1 January 1951; Alabama Journal, 31 August and 1-2 September 1950; and Washington Post, 7 October 1950.
- 8. Marvin I. Cohen and Richard H. Jackson, "History of the Air Command and Staff College, 1946-1966," Study no. 18 (Maxwell AFB, Ala.: AU History Office, 1966), 1-3; Robert W. Schmidt, "History of the Air War College, 1946-1966," Study no. 17 (Maxwell AFB, Ala.: AU History Office, 1966), 11-12; "Operation New Home" (Maxwell AFB, Ala.: AU History Office, 1955); and Jerome A. Ennels, "A Short History of Air University" (Maxwell AFB, Ala.: AU History Office, 1996), 10-12. The standard account of the USAF in Korea is Robert F. Futrell's The United States Air Force in Korea, 1950-1953 (New York: Duell, Sloan and Pierce, 1961).
 - 9. Gillem interviews, 4 April 1994 and 28 May 1996.
- 10. Gillem interview, 28 May 1996; History, AFROTC, vol. 1, 1 July 1970-30 June 1971, 1-7; History, Air University, vol. 5, 1 July 1970-30 June 1971, 1-41; History, Squadron Officer School, vol. 1, 1 July 1970-30 June 1971, 1-4; History, Air University, vol. , 1 July 1970-30 June 1971, 1-13, 21-22, 31-32, 40-41; and History, Air University, vol. 1, 1 July 1971-30 June 1972, 1-7, 19-22, 24-25, 30, 83-84, 101.
- 11. Richard P. Hallion, Storm over Iraq: Air Power and the Gulf War (Washington, D.C.: Smithsonian Institution Press, 1992), 83.

- 12. Earl H. Tilford Jr., interviewed by Wesley Phillips Newton, 6 January 1997; and Maj Suzanne Budd Gehri, USAF, "Study War Once More: Teaching Vietnam at Air University" (paper presented at the Southeast Conference on Asian Studies at Duke University, 19 January 1985).
 - 13. Gehri.
 - 14. Tilford interview.
 - 15. Hallion, 14-15.
- 16. Stephen L. McFarland, A History of the United States Air Force (forthcoming).
 - 17. Ibid.
- 18. Mark Clodfelter, The Limits of Air Power: The American Bombing of North Vietnam (New York: Free Press, 1989); and Earl H. Tilford Jr., Setup: What the Air Force Did in Vietnam and Why (Maxwell AFB, Ala.: Air University Press, 1991).
- 19. John Schlight, A War Too Long: The History of the USAF in Southeast Asia, 1961-1975 (Washington, D.C.: Air Force History
- and Museums Program, 1996), introductory statement. 20. "Talking Paper on Vice Commanders," PME Symposium, 25-26 September 1974, and "Proceedings of the Vice Commanders," PME Symposium, 25-26 September 1974, AU History Office, Maxwell AFB, Ala.
- 21. Lt Gen Raymond B. Furlong, USAF, Retired, transcript of oral history interview by Hugh N. Ahmann, 1980–81, Air Force Historical Research Agency (AFHRA), Maxwell AFB, Ala.
 - 22. Ibid.
 - 23. Ibid. 24. Ibid.
- 25. Lt Gen Stanley M. Umstead Jr., USAF, Retired, transcript of oral history interview by Capt Mark C. Cleary, 1983, AFHRA; and Lt Gen Stanley M. Umstead Jr., interviewed by Wesley Phillips Newton, 21 February 1996.
- 26. Lt Gen Charles G. Cleveland, USAF, Retired, interviewed by Wesley Phillips Newton, 27 October 1993 and 27 February
- 27. Williamson Murray, "Grading the War Colleges," The National Interest, Winter 1986-1987, supplement on "Education," 12 February 1987; and Jerome A. Ennels, "Evolution of Air War College Curriculum, 1946-1947" (Maxwell AFB, Ala.: AU History Office, 2 February 1988), 1-20. 28. Ennels, "A Short History of Air University," 21.

 - 29. Ibid., 20-21.
- 30. Frank Mastin Jr., "New Center Officer Answers to Pentagon," Montgomery Advertiser, 18 January 1997, 1B.